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14. ABSTRACT This paper discusses the need to shift C2 of all services EOD from Combat Service Report (CSS) to Combat Support (CS) to support greater planning and execution against the number one battlefield threat, the Improvised explosive device (IED). A realignment of C2 for all services EOD forces form the logistical structure (CSS), to the operational/maneuver (CS) structure is required to effectively plan against improvised explosive devices and the enemy cells that build them and support the operations throughout the battle space. The paper discusses the history, traditional missions, C2, Theater organization of each services EOD. From there the paper discusses how the EOD services should be restructured.					
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Movement of Explosive Ordnance Disposal Command and Control (C2) from logistical support to operational/maneuver support, within the military organization.

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Executive Summary

Title: Movement of Explosive Ordnance Disposal Command and Control (C2) from logistical support to operational/maneuver support, within the military organization.

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Thesis: The current individual services Explosive Ordnance Disposal (EOD) forces Command and Control (C2) structure is incorrect to support operational planning and execution against the number one battlefield threat, the improvised explosive device (IED). A realignment of C2 for all services EOD forces from the logistical structure (Combat Service Support), to the operational/maneuver structure (Combat Support) is required to effectively plan against improvised explosive devices and the enemy cells that build them and support operations throughout the battle space.

Discussion: The United States has been fighting a war against extremists for ten years with the weapon of choice being the Improvised Explosive Device (IED). Throughout the war, leaders have attempted to defeat the IED through new commands such as JIEDDO, high dollar equipment in the form of MRAPs (mine resistant armored...), CREW (counter-radio electronic warfare) and new intelligence techniques. Military leaders have failed to effectively restructure command and control to better utilize their internal forces effectively, who are most capable to gain intelligence, develop plans and execute operations to reduce insurgent cells.

All services EOD forces come from the same history of people willing to take the long walk to disarm a bomb to protect civilian populace, property and fellow servicemen. EOD is the most joint community throughout the military service. All services EOD attend training at Explosive Ordnance Disposal School in Eglin Air Force Base in Florida. They all wear the same coveted EOD badge and have currently fought on the same land battlefield under a joint command. The difference lies in how they are aligned in the chain of command within their parent services...

Explosive Ordnance Disposal forces are key to all areas of success, whether it be defeating the device, destroying the network, or the training of the force. All the services except the Navy align their forces under the combat logistics or engineering command structure and therefore do not use their expertise to develop plans for the neutralization of terrorist cells that develop the IEDs or the plans to maneuver throughout the battlefield. Some may say that when this war is over those service EOD forces will return to their historic roles within their parent services such as route clearance, range clearance and airfield support. The IED has been designated the weapon of choice for all future wars, which means all services EOD forces will be conducting joint operations across the battle space for the near and far future of military operations; from Yemen to Africa.

Conclusion: EOD forces across the services have a unique ability to not only prosecute the IED so that forces may advance throughout the battle space, they also collect evidence and provide a trail to the individual cell or bomb builder that allows SOF forces to prosecute the correct target. The change in command and control from logistical to operation/maneuver will allow service EOD to more effectively align their training, procurement and support to meet the objectives of the commander they support on the battlefield.

Introduction:

It starts with a cloud of dust and then the horrific shock to the vehicle and sound of crushing metal around you. An EOD team will arrive on the scene and commence the intense search for any remaining Improvised explosive devices (IEDs) and then will analyze the crater and vehicle that remain from the IED explosion. This process may take the use of a robot and possibly a long walk in a bomb suit that weighs over 80 pounds and does not get lighter when the temperature surrounding it is an oppressive 130 degrees. This scene is in Afghanistan...or Iraq, but one theme in common is it is EOD forces doing the work. EOD ensures the maneuver forces access to its objectives. EOD has come to the forefront of this war and has no single service that owns it. When the bomb suit is manned, it is manned by EOD, but that could be from Navy, Army, Marines or Air Force...all are playing in this war, and supporting each service, not just their own.

Though all the services have EOD, they are not all structured the same. After nine years of fighting wars, developing new commands and equipment, the services have not reorganized EOD forces to better support the operational commander against the number one weapon of this war, the Improvised Explosive Device. The current individual services EOD forces Command and Control (C2) structure is improper to support operational planning and execution against the number one battlefield threat, the IED. A realignment of C2 for EOD forces from the logistical structure (Combat Service Support), to the operational/maneuver structure (Combat Support) would allow more effective planning against improvised explosive devices and the enemy cells that build them and support operations throughout the battle space.

The best and most current example of this is the Relief In Place/Transfer of Authority that just occurred in theater in the fall of 2010. A Navy EOD Mobile Unit was operating as the battalion

level command over EOD forces supporting efforts in Iraq. The relieving command was an Army EOD Battalion. During the transfer there was a stark difference in priorities of effort and relief. The Navy EOD command supported and emphasis on S-2 (intelligence) and S-3/5 (operations and planning), while the Army command placed their emphasis on S-4 (logistics).

The Navy component had focused on supporting the maneuver and operations element which is where they fall within the Navy structure, but the Army component had focused on the logistical portion of its deployment which matched its C2 structure within its service. The Army EOD conducted the RIP/TOA not trying to understand the complex dynamics in the fight against the bomb maker and the cell that places them, but in performing a materiel and property inventory and ensuring all the equipment serial numbers matched.¹

EOD forces are one of the most joint force within the military. All services send their prospective candidates to Explosive Ordnance Disposal school in Fort Walton Beach, Florida at Eglin Air Force Base. The Navy manages the joint service school. All services send their candidates through eight months of combined training. The structure of the training builds on knowledge and then practical exercises that ensure the member understands how to perform the render safe procedures (RSP) on all aspects of ordnance. Though Navy EOD tends to start in Navy centric classes, many inherently roll back and are in classes that are comprised of all services. Navy EOD candidates attend dive school prior to EOD School, and have an additional 2.5 months of training during EOD school that other services are not required to attend. Additionally Navy EOD attends jump school, expeditionary training and tactical training after the completion of EOD School.

EOD School is comprised of multiple areas of training, Core (learn basic understanding of explosives and computer programs), Tools, Methods and Demolition (TMD), Reconnaissance (RECON), Ground (artillery shells, landmines, booby traps), Air (missiles, rockets and dispensers), Improvised Explosive Devices (IED), Weapons of Mass Destruction (WMD), Chemical and Biological (Chem/Bio) and Nuclear. These areas are common to all services and are instructed by trainers from all services and civilian instructors. All services except Navy are designated EOD after successfully completing all the areas. Navy EOD performs another 2.5 months of training to include instruction in underwater mines, torpedoes and limpets, and actual underwater practicals which take all the methods learned and has them performed underwater. Navy EOD will complete these additional areas and then be designate EOD. They will continue on to Army jump school, Expeditionary course and tactical training.

History:

Draper Kauffman was an unlikely father of modern day Explosive Ordnance Disposal forces. He graduated from the Naval Academy in 1933, but did not receive a commission due to his eyesight. When he did not receive his commission in the Navy, he went to France and became an ambulance driver during World War Two. He would have many close calls and even spend time as a prisoner of war. When he was released as a prisoner of war, he went to England and was commissioned into the Royal Navy since he had graduated from the U. S. Naval Academy.

The British Navy was looking for volunteers for the Disposal Corps and Draper reluctantly went to the interviews. He selected for the Disposal Corps and was trained on the techniques. Draper Kauffman practiced his trade in England, where he learned procedures for bombs, sea mines and landmines. As the United States was preparing for war and understood the need for a

specific group of people who could de-fuse unexploded ordnance and clear the way for forces to advance, it was remembered that an American was in England performing those duties.

Called back to the United States, Draper Kauffman received a commission in the Navy. He was directed to develop a bomb disposal school and train forces in the techniques that he learned while in the service of the British military. He would open the mine disposal school and later the underwater ordnance school.

Service EOD missions and C2 Structure:

The mandate that directs the Navy to operate the EOD school, also mandates the Navy to operate the technical division for all services EOD forces. DoD Directive 5160.62 was first issued in 1971, designating SECNAV as the Single Manager for EOD Technology and Training, a designation that continues today. The Naval EOD Technology Division (NAVEODTECHDIV) is the EOD Technology Center, which the Navy is directed to provide, manage, and maintain.² The technical division ensures the proper testing of all equipment prior to the equipment's dissemination to all services EOD forces. Additionally, the technical division tests all procedures for a known ordnance item and ensures they are certified prior to the procedures being authenticated as an approved render safe procedure (RSP). Naval EOD Technical Division is committed to providing excellent engineering and technical services in support of the Joint Service EOD Technology Program and other customer requirements.³

As the above has shown, all services EOD structure from training, technical development, tools and procedures are joint in nature. When forces are combined in theater they fall under the same structure and can be commanded by either service. We will discuss the theater organization later and show an example of the structure used by the joint EOD forces. The major

difference between the services is the organizational structure that service EOD forces are under during peace-time and CONUS periods. It is this structure that affects the services EOD forces ability to train, plan and adapt properly to support the operation/maneuver commanders requirements on the battlefield.

Most of the Army's EOD forces are under the command of the 52nd or 71st Ordnance Groups (EOD). They fall under the 20th Support Command (CBRNE). EOD battalion headquarters now align with divisions, in lieu of corps, and EOD companies either directly support or are under the operational control (OPCON) of brigade combat teams.⁴ Army EOD companies consist of three modular platoons each containing three EOD teams. This modular framework enables the company to further expand its operations in support of maneuver forces.⁵ Five companies do not fall under the command of the 52nd or 71st Ordnance Groups (EOD): two each assigned to US Army Europe and US Army Pacific, and one that is assigned to US Eighth Army in Korea. Each EOD battalion provides command and control for three to seven companies in support of each corps and theater support command.⁶ The EOD company functions as the Army's primary operational unit. An EOD-qualified captain commands each company. The company composition also includes eighteen EOD technicians and three support personnel.⁷ Army EOD forces are tasked with providing EOD services on Army installations, for explosive ordnance in the physical possession of the Army, and on "land mass areas" except when an area is a specific responsibility of another service.⁸ Army EOD is a conventional combat service support force.⁹ Army EOD forces train together as a unit and deploy as a unit to the theater that they support.

The Air Force's EOD units organize as flights assigned to air bases worldwide. Each base commander has tactical control of his base's flight. Operationally, the Air Force's civil engineering community manages the EOD flights. This is the result of a series of organizational

shifts throughout the 1970s reflecting the Air Forces increased awareness and concern for air base survivability during the height of the Cold War.¹⁰

As base commanders studied base threats and defenses and began looking for ways to minimize the time required to return to airfield operations in the event of an attack, local EOD forces became increasingly important. Due to the requirement to quickly eliminate an ordnance threat to airfields to increase its viability, EOD flights were moved under the civil engineering commands of each base, where they reside today.¹¹

Air Force EOD flights are tasked with providing EOD services “on Air Force installations, at dispersal bases (which include non-DoD installations from which Air National Guard and Air Reserve Forces operate) or in assigned operational areas, or explosive ordnance in the physical possession of the Air Force.”¹² As a part of the Air Force’s civil engineering community, EOD flights are not considered combat service support units (though the blurred lines in Iraq have resulted in all forces experiencing combat to some degree).¹³ Air Force units do not conduct all their training together. The deploying unit is concentrated from different flights throughout the country and is provided limited unit training prior to deployment.

Marine Corps EOD forces are organized into companies that fall under the Combat Logistical Support Battalion within a Marine Expeditionary Force (MEF). A captain commands a Marine Corps EOD company. The composition of a Marine EOD company includes multiple teams of two or three technicians. The EOD officer on the MEF staff is a major. He coordinates operations throughout the MEF area of responsibility. The MEF air wing has an EOD detachment assigned to it to provide services on the flight line. This detachment is under the direct command of the air wing commander and does not report to the MEF EOD company.¹⁴

Marine Corps EOD forces are tasked with providing EOD services on Marine Corps installations, in assigned operational areas, or on explosive ordnance in the physical possession of the Marine Corps.¹⁵ Marine Corps EOD companies are combat service support units more closely aligned with engineering and construction units than combat forces.¹⁶ Marine Corps EOD forces train together as a unit and deploy as a unit to the theater that they support.

Navy EOD forces are organized into two groups, one is based on the east coast and one on the west. Each Group is comprised of four EOD Mobile units. Each Mobile Unit is comprised of 12 to 14 deployable platoons. Non-deployable shore detachments are assigned to naval bases whose base operations require permanent EOD support. One officer and seven enlisted EOD technicians comprise the platoon. A lieutenant junior grade or warrant officer commands a platoon. Navy EOD platoons are equipped and trained to specific missions. A small number of them are designated as Mine Counter-Measures (MCM) platoons whose mission is to render safe traditional sea-mines to secure passage of the seas. The bulk of EOD platoons are trained to support Carrier Strike Group operations and support combat operations in Iraq and Afghanistan. Additionally, one third of Navy EOD platoons are trained to support Navy Special Warfare and specially designated Army Special Operations Forces operations.

Like the other services, Navy EOD forces are tasked with providing EOD services on naval installations, in assigned operational areas, or for explosive ordnance in the physical possession of the Navy. They also are tasked to provide services within the oceans and contiguous waters up to the high water mark of coasts, inlets, bays, harbors, and rivers, as well as in any canals or enclosed bodies of water. Further, Navy EOD forces are to “provide EOD services for rendering safe and disposing of explosive ordnance designed to be used underwater, except when it is in the physical possession of another service.”¹⁷ Unlike the other three services, who are structured

as combat service support and fall under the logistical organization of their service, Navy EOD is tasked with direct support of combat missions and falls under the operational organization of their service. Navy EOD is the only service EOD who has one third of its forces currently supporting Special Operations combat missions. Navy EOD forces train together as a unit and deploy as a unit to the theater that they support.

The Army and Marine EOD forces are designated as combat service support units more closely aligned with engineering and construction units than combat forces. Their major Command and Control is under the logistical portion of the services organization. The Air Force EOD forces are organized and trained to provide critical services for airfield survivability and repair, but they are more removed from combat than the combat service support units of the Army and Marine Corps. Air Force EOD forces have no real Command and Control construct since they generally fall under the base commander for operations.

Navy EOD, in stark contrast, is a combat support force. Its detachments are equipped and organized to directly support combat operations, and Navy EOD technicians possess the individual skills and equipment to be significant additions to combat operations. Another major contrast is that Navy EOD officer corps is a professional corps that develops its officer leadership and planning skills through the design of its organization and billets its officers fill. Other services EOD officers perform an EOD officer tour and then are assigned to another tour in their main officer pipeline whether it be ordnance officer for the Army, Civil Engineer for the Air Force, or a Limited Duty Officer for the Marines. Navy EOD has a sophisticated Command and Control structure due to the way it educates and promotes its officers. Additionally, they have the ability to coordinate operations with component commanders and Special Operations

command elements. Navy EOD officers fall under the Navy Unrestricted Line Officer corps, which includes all its operational officers; surface warfare, SEALs, pilots, submariners.

The Army fills its EOD officer corps with ordnance officers whose professional training lies in the logistical arena, not combat. Army Officers with 89E (Explosive Ordnance Disposal) as their primary AOC, will be required to maintain a secondary AOC of 91A (maintenance and munition).¹⁸ This changed in May of 2010 when the Army officially designated EOD officer as a professional corps and designed its training to support the development of the EOD officers in the EOD field.¹⁹ Though they have made the move in their training of the officer, they have not made the move to adjust their EOD forces to the operational/maneuver organization for all their training. All Marine EOD officers are from the enlisted ranks and work their way up to the officer ranks. The Marines only have two O-5 positions in EOD and have no real structure to develop their officers in the planning and operational envelopes. The Air Force does not possess a structure to promote professional development within their EOD trained officers. Finally, Navy EOD is the only service EOD who holds a flag level officer. Navy EOD currently possesses two Flag officers. I believe this shows the importance that Navy has placed on its EOD forces and their validity in the current and future operations. The Army and Air Force still limit their highest EOD officer to O-6 and the Marines highest EOD officer is an O-5. Flag representation is important when doctrine and policy need to be modernized.

Theater Organization:

Today's fight showed the traditional operations of protecting the lines of logistics and reducing hazards after the operational force had advanced as archaic, and changed the EOD forces' mission, placing them within the operation/maneuver element on the front line, vice in

the rear with the logistical forces. New requirements included IEDs and the need to render them safe (EOD forces are the only force authorized to conduct render safe procedures (RSPs)), weapons caches, road side bombs, booby traps, post blast analysis and the ability to analyze data and use that data in the capture of IED networks. Prior to September 2001, there was no doctrine for incorporating EOD units at the brigade-level and below or for integrating EOD and engineer efforts to assure mobility to maneuver forces.²⁰

The theater command and control structure for EOD was insufficient due to the lack of structure in the EOD peace-time forces, thus leaving the EOD forces overwhelmed by the volume of missions requiring their capabilities.²¹ At the beginning of OEF and continuing in the opening months of OIF, field commanders reported challenges with both availability and the integration of EOD capabilities in support of combat operations.²² On the day Marines crossed the line to invade Iraq (20 March 2003), 14 Navy and 20 Marine EOD technicians were the only units available to support all the operations. Marine EOD had not made the shift to supporting maneuver operations and did not possess the sophistication in their command and control structure to support such operations. A single Marine EOD Officer at the O-4 level was on the MEF staff to coordinate all the battle-space requirements. The tactical level EOD elements planned and conducted most requirements. Navy EOD institutionalized their two-man team construct into both Marine and Navy EOD teams. Many times the EOD forces were in combat operations or engaged with an RCT who did not possess organic EOD so they had been removing ordnance hazards by disposing of them in canals or attempted destruction by unsafe practices such as destroying large volumes of ordnance by shooting them with hell-fire missiles from helicopters.

In addition to conventional support, Navy EOD was providing support to Navy SEALs and certain Army Special Forces units. Army EOD was providing EOD support to Ranger battalions. While the Navy had developed a mature relationship with Navy SEALs and placed Navy EOD Officers on their staffs, they had a limited relationship with Army Special Forces. They did engage and develop key staff positions on higher Special Forces staffs, but had limited structured training and command and control at the company level. These relationships continue to mature as the Special Forces and SEALs have realized that IED and booby trap scenarios are part of the future of irregular warfare and EOD is a required tool to ensure success on their missions. Navy EOD is a critical component of both Special Forces and SEAL mission planning and execution. Additionally, Navy EOD assets are used for the intelligence analysis of trends in regions and components found. The command and control element of Navy EOD is sophisticated enough to provide key guidance in the area of Special Operations. Many of the officers and enlisted have deployed with Special Operation/SEAL elements and held staff positions within special operations.

Army EOD has had to support Ranger battalions on a pick-up style relationship with limited resources and no prior training. If the future conflicts are going to require the support of service EOD in the Special Operation arena, there needs to be a structure developed by all services that ensures proper training with the specialized components and a command and control element that has the capability to support such operations. When service EOD are under the logistical organization, then there is an inherent difficulty to align the training, requirements and priorities with the operational component. Currently Air Force and Marine EOD do not support Special Operations.

Afghanistan and Iraq developed theater EOD commands to coordinate EOD operations throughout the battle-space. All coordination is conducted for conventional support operations. Though the missions in both theaters are similar, the structure of the commands vary slightly. Task Force Paladın (Afghanistan) was established by Joint IED Defeat Organization (JIEDDO) and was manned by Individual Augmentees (IA). It is structured to coordinate EOD, Weapons Intelligence Teams (WIT) and Combined Explosive Exploitation Cell (CEXC). JIEDDO has three missions it supports: (1) Defeat the Device, (2) Attack the Network, (3) Train the Force. The primary focus of Defeat the Device is to neutralize the IED after it is emplaced. Attack the Network aims to find and eliminate the bomb makers before they can assemble and emplace the IED. Train the Force supports the training of US personnel on how to protect themselves from IEDs.²³ All areas include the use of EOD forces. Defeat the Device uses equipment to block signals or trip the IED prematurely. It funded the development and production of new vehicles that could withstand the pressure of an IED blast. Additionally, Defeat the Device includes EOD technicians using their equipment to render safe an IED by either disrupting its means of operating, or providing a counter charge to produce a controlled detonation. Attack the Network is where EOD acquires evidence such as residue and frag from the scene and looks for clues such as finger prints, materials used, explosives used and other classified means to develop a description of the bomb maker or bomb making network to provide Special Forces targets to prevent the emplacement of future IEDs.

EOD works to not only analyze the site, but also runs the CEXC lab where they use civilians, FBI and a few other organizations to build the models and extract evidence. The CEXC lab also identifies enemy tactics, techniques and procedures (TTPs) so that JIEDDO can develop more effective countermeasures against the threat. Finally, in train the forces, EOD conducts training

for convoys, war fighters and civilians not only on what to look for, but the equipment they use to protect themselves. They also run training lanes that allow convoys to maintain their skills between missions.

Where JIEDDO runs TF Paladin, A Navy or Army Unit runs Task Force Troy (Iraq). This command is an O-6 level command. Under TF Troy, there are all the same elements that were included in TF Paladin. This command and control ensures the Division and all battalions receive the support they need to conduct their mission. As either Paladin or Troy assess their metric of missions and types of IEDs, they can move forces around the battle space to better support all the commanders. In the case of insufficient forces, they support the maneuver commander in determining the most effective use of EOD assets and additionally assists in developing the Request For Forces (RFF) and validate the requirement and term the requirement will be necessary. Appendixes 2 and 3 show the relevance of this by identifying the spikes in IED incidents and the possibility of having to request additionally forces or identify where the commander needs to adjust forces from and increase possible risk associated with missions. In addition to TF Paladin and Troy requirements, the Navy has two additional O-6 level Task Forces, CTF-56 in Bahrain and CTF-68 in Rota. Both commands have operational control over all EOD and expeditionary assets within their geographical areas.

Lieutenant General Thomas F. Metz, U. S. Army, Director of JIEDDO, states that he is often asked if the IED threat can be removed from the battlefield, and his answer is "no". "In its most fundamental form, the IED is a lethal ambush, and men have been ambushing their enemies for thousands of years."²⁴ As Metz points out, the transformation of the enemies tactics has shown that IEDs will be used in all areas of the world. They are an inexpensive, low technology, high impact weapon. All operation/maneuver commanders will be required to infuse EOD into their

scheme of maneuver and use their expertise to identify the type of IED, and how it functions. EOD will also be utilized to analyze evidence and develop trends and story boards to shape targeting for Special Forces. Experts state the use of IEDs worldwide will persist and may increase. Much of this is due to the success of the weapon in Iraq and Afghanistan. There are 200 to 300 IED attacks each month outside of Iraq and Afghanistan.²⁵ Yemen, Africa, South America, for example, could be areas that commanders have limited EOD assets to combat the IED. Unless DoD is planning to increase EOD forces substantially, maneuver commanders are going to have to understand EOD assets and will need EOD officers who can plan and support operations effectively to ensure mission success with minimal casualties to friendly and blue forces.

Many of the discussed issues with EOD command and control concern the Army and Navy. The adjustments to EOD organizational structure in theater were a result of the Navy and Army EOD forces coordinating to develop a more effective organization to support conventional operations within theater. Air Force EOD forces support joint operations, but their command and control structure within their EOD forces is so underdeveloped that they only have the ability to supply forces, but have no capability to command forces within the Iraq and Afghanistan theater. The Marine Corps has maintained their EOD forces organic to themselves and do not support Joint EOD operations. This has resulted in growth of Marine EOD command and control being limited. They do not adjust to the theater structure of supporting the operational/maneuver commander and have limited input to the planning portion of missions and the layout of EOD forces on the battle-space where the Marines are conducting operations. The Navy does support the Marines operational forces with EOD but often times are prevented by Marine EOD from providing a command element with their EOD forces. Generally, if a

command element was provided by Navy EOD, its officers would be senior to the Marine EOD officer.

Operational/maneuver leaders have stated that the current organizational structure does not meet the need of commanders on the battlefield. Although there is a technical training requirement for the (ARMY) EOD community to remain connected with the Ordnance Branch, there is an overarching operational requirement for them to integrate into the maneuver support community.²⁶ As stated above, Army EOD falls under the 20th Support (CRBNE) who has control of quartermasters and transporters. Army EOD needs to be organized under operational/maneuver elements to better support their battlefield operations. This would allow for the emphasis on the proper training and professional growth to align the EOD forces effectively to support the operation/maneuver commanders requirements.

Another issue is the lack of operation/maneuver units who understand how to use EOD forces. EOD conducts Mission Rehearsals Exercises (MRX) with the brigades-sized units at maneuver training centers, but since EOD is not structured as part of operation/maneuver units, nobody understands how to institute EOD into their plans and operations, therefore the training falls short in providing real-time operational command and control issues.²⁷ In the content of conventional combat operation support, since EOD does not fall under operation/maneuver, it is limited in its participation in training with these forces. EOD also is limited in its ability to mature its skills to support operation/maneuver units.

Additionally, EOD training and gear procurement are at a lower priority since they are not considered a maneuver element. CS and CSS units are directly behind the major combat units that they support using requirement objective code positions. In the 98-03 DAMPL, EOD was

listed as a Position 3 requirement objective code.²⁸ As support to conventional and special forces expands, the need for EOD command and control to be organized under operation/maneuver elements becomes even more necessary. As Major Evans indicated in his assessment, "Other skills or capabilities that were often required of EOD, to support maneuvers, included the ability to conduct tactical operations in complex terrain (urban and mountainous), planning, selecting and marking helicopter landing zones, and participating in the planning process at all levels to include rehearsals and back briefs."²⁹

Another issue that was forwarded to Major Evans for his paper from the 756th Ordnance Company (EOD) was a statement that there was a requirement for a fundamental change in EOD doctrine from a "force protection" to "maneuver enabler" focus.³⁰ The priority of training and the mindset of operations are inherently related to where EOD units are organizationally tied. A logistically organized group is going to worry about training in the movement of items and assets and less on the combat element, whereas an operation/maneuver organized group is going to focus on how they support the mission and what skill sets are required to complete that mission. Many of the items described from other authors who have written on EOD support to the operation/maneuver forces, are not on the ability of EOD to be successful, but on the lack of initial training, planning and understanding of theater organization, and the need to bring them up to speed in theater. Command and control elements should understand the doctrine and requirements of those they are going to support on missions during the training cycle, but when EOD units are organizationally aligned under a different element, they have a limited capability to cross train and align with the supported element. Funding and priorities differ at the higher command levels resulting in missed training venues in support of operation/maneuver forces.

The issues of the effects of the current command and control structure only intensify when you examine the future ability to identify the appropriate EOD force structure for an operation. This will require a more thorough and complex mission analysis by staff officers familiar with the modern battlefield's explosive hazards. Underestimating EOD forces and the effects of explosive ordnance threats upon combat operations will ripple across all phases of combat operations.³¹ Without adjusting EOD command and control organization to the operations/maneuver area, battlefield commanders are developing plans to conduct operations without input from the EOD experts, therefore instilling substantial risk to their warfighting efforts. Appendix 1 denotes the substantial increase in requirements for EOD teams throughout the battlefield.³²

Commanders need to use the assets effectively. To do that, they must have the EOD command and control element infused into their organization for planning and operations. Another incident was in planning for the 2003 invasion of Iraq, a unit required an EOD element to participate in an assault that airborne capability was required in order to reduce booby trap, IED and UXO threats. The objective was identified early on in the planning. It was determined that Army EOD had no airborne trained units and the only service to have EOD with that capability was Navy.³³ If Army EOD command and control was aligned under operation/maneuver, the requirement for airborne qualified EOD could have been determined prior to mission requirement and possibly training and funding could have been instituted in advance of a real world mission requirement.

How service EOD should be Re-organized:

The service EOD forces Command and Control realignment needs to be under an operation/maneuver element. This alignment is required to ensure that the priorities of support would be allocated to operation/maneuver elements instead of logistical elements. As discussed earlier, priorities for training and equipment, are aligned differently, by what element of forces EOD is aligned under. EOD forces need alignment under operation/maneuver forces to guarantee their training priorities reflect the need of the operation/maneuver force. They need to confirm that they can meet training requirements during the pre-deployment training to make sure that operation/maneuver commanders understand how to use the EOD forces effectively throughout the battlefield. It would allow EOD forces to understand what critical skills the general and special operations/maneuver forces require from EOD forces in order to receive the adequate support for their operations. Incidents such as the one in 2003 where Army EOD forces did not have the airborne skills required for a mission, may have been averted if EOD forces had been aligned under operation/maneuver forces and supported a training event which included a scenario that required the skill set. At this point, EOD could have adjusted their career training to support the operational necessity.

Navy EOD has proven an effective example of having its forces under operation/maneuver elements. It has adapted its training and structure to best support not only general maneuver operations, but also to construct a solid foundation in the realm of special operations. Another area that will be greatly influenced by this realignment is procurement. Service EOD forces do not hold the priority for equipment that operation/maneuver forces do, yet are required on the front line in today's and possibly future wars. EOD requirements would receive higher priority in attaining the equipment required to successfully support operations on the battlefield.

As stated, Navy EOD is aligned under operation/maneuver forces and has been successful. This alignment was due to EOD initially supporting the ships in their day to day operations on the flight deck, and from the need to have Navy EOD in the initial planning for the clearance of mines for amphibious assaults. There are always adjustments and growth to be made in command and control, but Navy EOD had an easy adjustment from CONUS to theater construct.

The Army EOD has made strides to adjusting its forces by aligning EOD forces to operation/maneuver units on bases. The Army has been hesitant to fully transition to a reorganization that doctrinally places Army EOD under the operation/maneuver commander for training and procurement. Part of this hesitation may be the result of politics within the Army where combat engineers do not want to see their influence to the operation/maneuver commander diminished by the transfer of EOD forces. Army EOD is a combat support element that is constructed under combat service support leadership. To have full alignment of its priorities and best support operations against IEDs on the battlefield, their EOD forces must be aligned under operation/maneuver.

Marine EOD forces have retained their alignment under logistics and have not performed any substantial efforts in adjusting their relationship with operation/maneuver forces. Marine EOD has not supported joint operations in Afghanistan and Iraq like the other services have. They have managed to stay isolated to their Marine Corps structure. This isolation has prevented Marine EOD's ability to fully support all levels that JIEDDO is attempting to effect in its campaign against the IED. Much of this lack of adjustment may come from the way it develops its leadership within the Marine EOD. Additionally, they do not place emphasis on an involvement of EOD in planning at the MEF level, which is indicated by the allocation of a single O-4 EOD officer on the staff. If Marine EOD looks to better support operations

throughout the theater of operation, they will need to look at the alignment of their forces and possibly adjust how they train and create their leaders.

Air Force EOD forces are probably the least capable to adjust. Their forces have been supporting the joint EOD operations in theater, but there has been no change to how they are aligned back in CONUS, nor how they train for the deployment. Their leadership seems to see the joint support to the war effort as a temporary assignment and seek to return to their historical mission of flight line support. Whether this outlook is realistic seems questionable. The realignment under operation/maneuver element of command and control will be difficult to perform under Air Force current construct.

There are other ways to adjust EOD forces that we have not discussed, but may need researched later in a different paper. EOD forces could be realigned under services to retain their old requirements and allow for an increase in EOD forces under those services that require EOD forces for land operations. Even under this type of realignment of EOD forces, there would still be a need to realign EOD Command and Control from logistical to operational/maneuver.

Conclusion:

The improvised explosive device (IED) is a weapon that allows non-state actors to affect large military operations with minimal forces and expense. It is the weapon of choice on the modern battlefield. It can be operated by multiple triggers and have a large effect on the physical and mental arena of warfare. Explosive Ordnance Disposal forces have been on the forefront of this fight. They support direct combat operations against those no-state actors. The experts stress the continued use of IEDs in the future and their use throughout the world at this time, yet after almost a decade of fighting, the Command and Control of service EOD forces has not seen

an effective reorganization to better support the combat forces. The current individual services EOD forces Command and Control (C2) structure, is incorrect to support operational planning and execution against the number one battlefield threat, the improvised explosive device. Service EOD forces need to reorganize so that the individual services can adequately plan and execute operations, so when the services EOD forces become joint on the battlefield, they are prepared correctly to provide the support to the commander of operation/maneuver forces that is required.

A shift of C2 for all services EOD forces from the logistical structure (Combat Service Support), to the operational/maneuver structure (Combat Support) is required to effectively plan against improvised explosive devices and the enemy cells that build them and support operations throughout the battle space. The shift would allow not only the development of the correct skills to support proper planning and operations against IEDs, but would also allow the mental shift that would provide the EOD warfighter the right frame of mind to align with the operation/maneuver units from training through operations. Additionally, EOD forces would be involved in pre-deployment training allowing the combat commander to understand how to effectively utilize EOD forces to support combat operations both in the conventional and special operations. Current structure retains the logistical command and control between the EOD forces and the operational commander EOD is supporting. This alignment prevents the direct relation to the warfighter that is needed for the proper planning against IEDs throughout the battle space. As the operations in Iraq and Afghanistan come to a close, EOD will find themselves in multiple regions with limited resources for support. The proper planning will require EOD forces who have a better understanding of the operational requirements and how to fill that commanders needs to move the forces across the battle space.

Appendix A

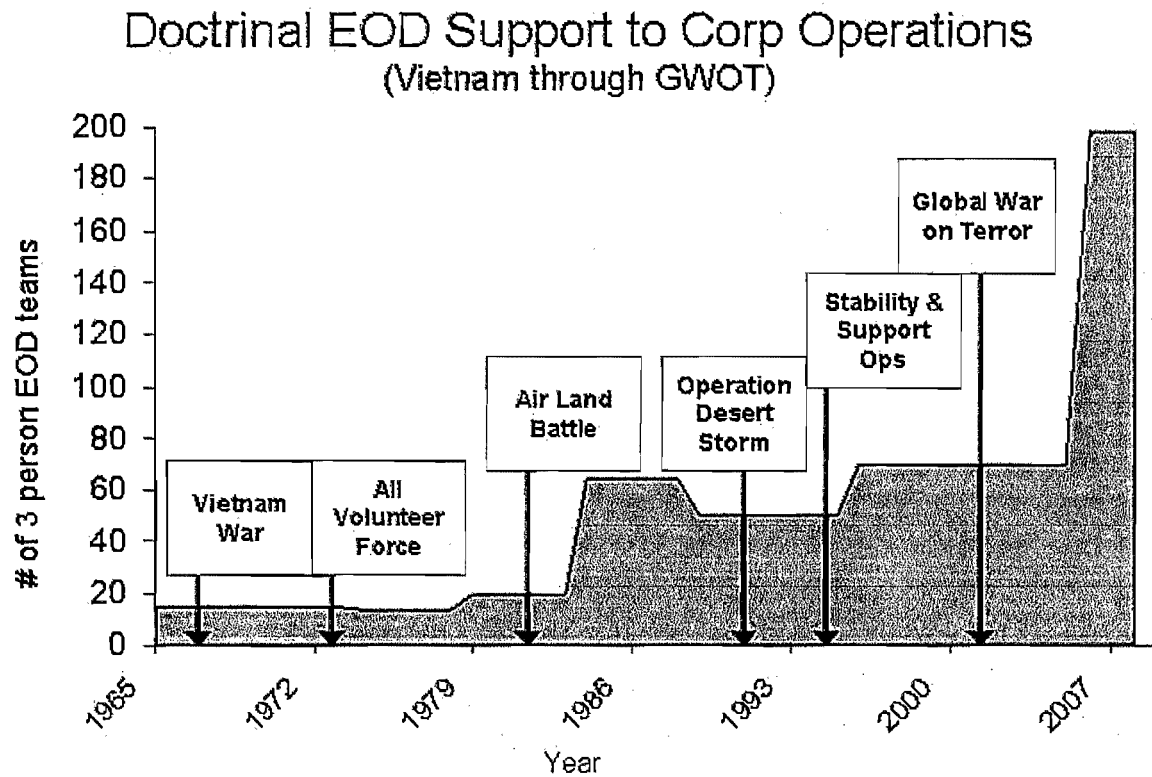
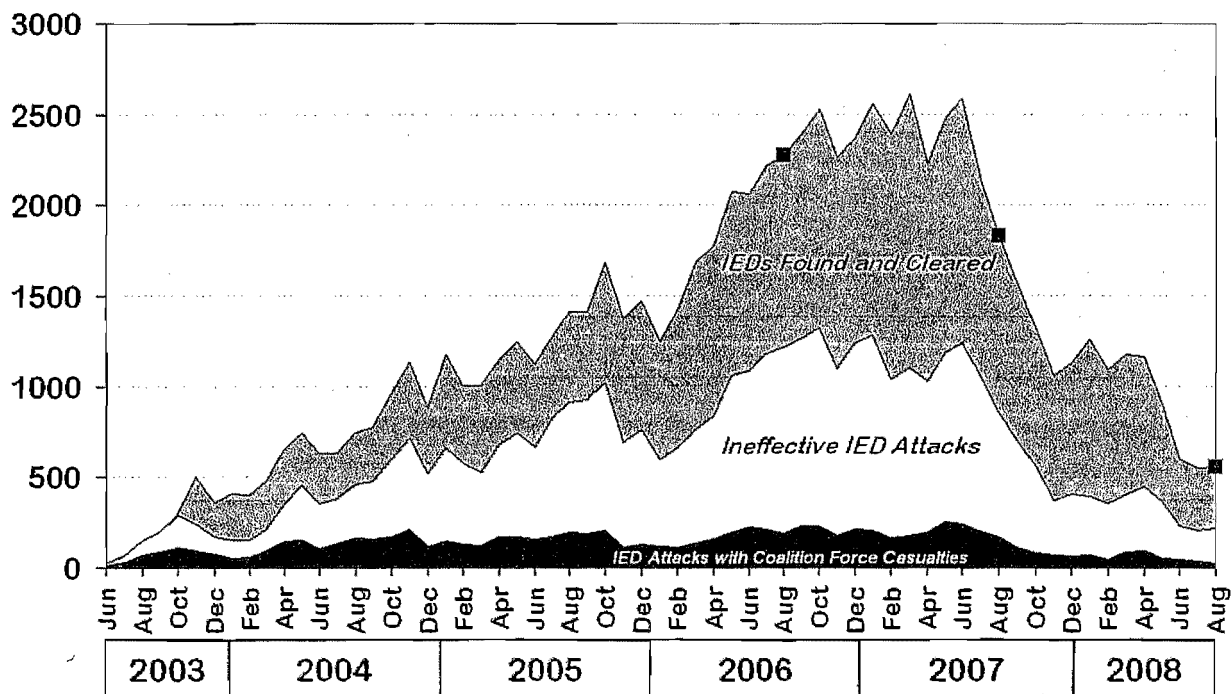


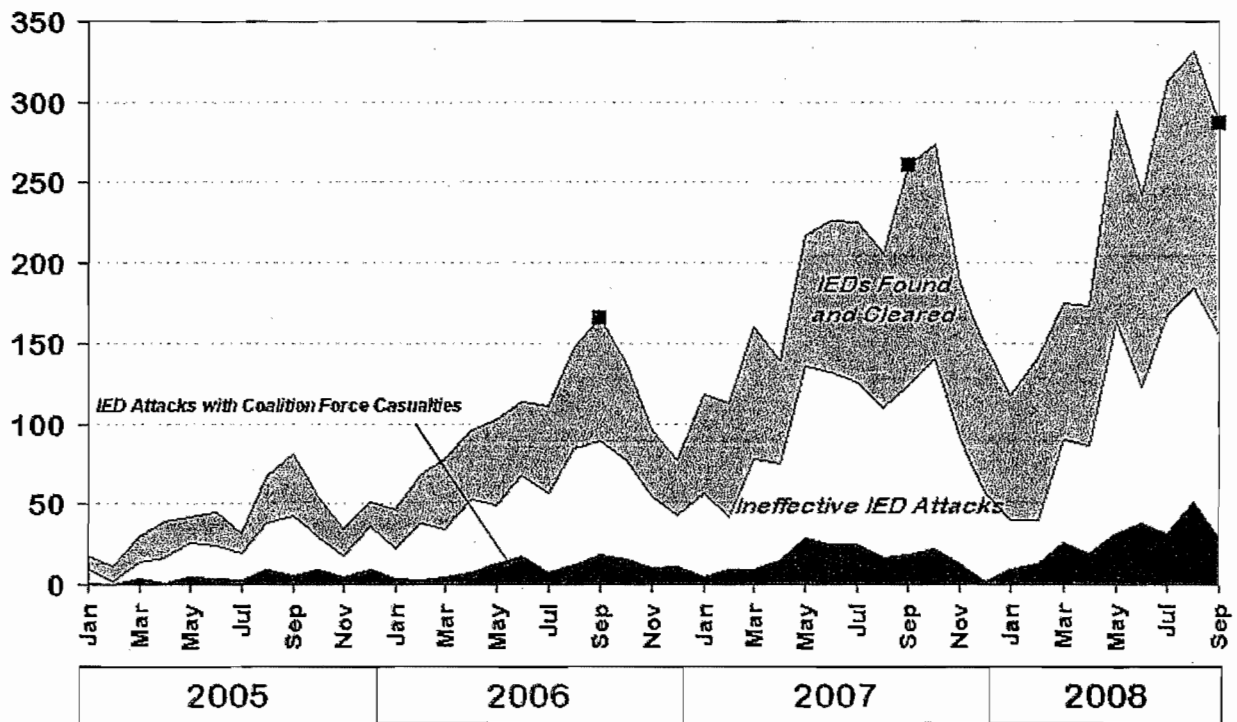
Figure 2: Doctrinal EOD Allocations to Support Corps Operations Since Vietnam

Appendix B



IED incidents in Iraq³⁴

Appendix C



IED Incidents Afghanistan³⁵

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